

LOWER FLUENCE BOUNDARY OBLIQUE LASER SHOCK PEENING

ABSTRACT

5 A laser shock peening method including laser
shock peening a first area with at least one high
fluence normal laser beam and laser shock peening a
border area between the first area and a non-laser
shock peened area of the article with at least one
first low fluence oblique laser beam. The border
area may be laser shock peened with two or more low
10 fluence oblique laser beams. The second low fluence
oblique laser beam and others have a lower fluence
than the first low fluence oblique laser beam. The
border area may be laser shock peened with progres-
sively lower fluence oblique laser beams starting
15 with the one first fluence oblique laser beam wherein
the progressively lower fluence oblique laser beams
are in order of greatest fluence to least fluence in
a direction outwardly from the first area through the
border area to the non-laser shock peened area.